Wzonka-Lad Guide

Ville Helin

COLLABORATORS			
	TITLE : Wzonka-Lad Guide		
ACTION	*NAME*	*DATE*	*SIGNATURE*
WRITTEN BY	Ville Helin	May 28, 2025	

REVISION HISTORY			
NUMBER	DATE	DESCRIPTION	NAME

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Wzonka-Lad Guide

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```
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```

1.2 Supplied preferences

Some users have donated colour schemes to be used with Wzonka-Lad.

Game	Donator	Fixed by me ;P
Castlevania 1	Kelly Samel	yes
Castlevania 2	Ville Helin	yes ^_^
Contra	Kelly Samel	yes
Final Fantasy Mystic Quest	Ville Helin	yes ^_^
Kirby's Dream Land 2	Ville Helin	yes ^_^
Metroid 2	Kelly Samel	yes
Super Mario Land	Kelly Samel	yes
Zelda	Kelly Samel	yes

Thanks to all you dudes for the colours! ^_^

1.3 Cracked/Patched Wzonka-Lads

It has come to my knowledge that Etrigan/sCUMbAGs has coded a patch
to disable the register window in Wzonka-Lad v0.98 (all praise to him
for finding the correct intuition.library/OpenWindowTagList() -routine
call), and I've seen this executable myself, too. The good things are
that he will not never release sounds to the public (because he hasn't
got them) and he liked about Wzonka-Lad ;) But the bad thing is the
patch itself, modifying the copyrighted emulator.

It seems that there are third parties interested in hacking the executables.
I bet the day when I am forced to stop developing Wzonka-Lad is one cycle
closer...

Let's make a patch... nice... now have the keyfile, too! 0 day warez, dudez!
... excellent... Too bad that after that there will not be any more new
Wzonka-Lad's to patch and crack and poison with keyfile duplicates.

One more of these patches and Wzonka-Lad is history.

Remember, every keyfile is individually coded. Every key can be traced
to the owner. Alter the data in the keyfile and it certainly will not work.
Change the name, yeah... I can still indentify the owner with 99.999%'s
propability...

Have a nice day. You have been warned.

1.4 About version 0.99.3

Remember when you use Wzonka-Lad you are doing it on your own
risk. You are fully responsible if something happens to your machine
due to Wzonka-Lad.

If you are moving from v0.8x or older to v0.90 or newer you must delete
the old preference files!

NOTE! Use AHI Paula v4.17 device and DMA 8 bit Stereo mode to obtain
      the best and fastest sounds on any Paula-chip sound system machine!
      v4.17 is much better than the previous drivers, so get it asap!!!

NOTE! Check out the new lowered keyfile price! ^_^ Now it should be
      cheap enough for everyone to register!!!

1.5 Questions

Q: The emulator doesn't work. In fact it quits right after starting.
    No window pops up at all!!

A: You have older than 0.9x preference files in your system. Delete
    ENVARC:Wzonka-Lad.prefs and ENV:Wzonka-Lad.prefs and it'll work.

Q: Game xxx has corrupted graphics.

A: Try first using Gfx -> Mode -> Full. If the graphics are ok, but
    you want more speed, switch to Gfx -> Mode -> x/153. Use different
    values for x to fix the output. Note that there are some problems
    which only Gfx -> Mode -> Full solves, but usually Gfx -> Mode
    -> x/153 is ok.

Q: I can't hear any sounds.

A: You'll need a keyfile to get them, so register fast! ;)

Q: If I put Wzonka-Lad on my homepage, will I get a keyfile?

A: Certainly not. I did once give a keyfile for that reason, but
    then I realized the world is filled with homepages, and anyone
    willing can make one by himself. So register, 15US$/70FIM isn't
    that much!

Q: If I draw MahouWB/Wunderbaum icons for Wzonka-Lad, will I get
    a keyfile?

A: Get real! Luca Longone is the official Wzonka-Lad icon producer. ;)
    But I do take free-of-charge fan art.

Q: If I'll do xxx will I get a keyfile?

A: Unless the xxx isn't pretty fantastic you can bet your heart out you
    will not get it. Pay me cash!!!

Q: Keyfile!?

A: With cash! Or something else as cool... ^_^

Q: Can I register with Kronas/Deutch Marks/Nuggets/Credits/Copper coins?

A: No! I'll only accept Finnish marks (FIM) (from Finns only!) and
    US Dollars (US$).

1.6   The keyfile

The keyfile must be kept in the PROGDIR: or in the L: device. You can
gain a keyfile by registering.

With the keyfile you can use the sound preferences window to select the
preferred AHI output devices and settings. Without the keyfile the
window cannot be accessed and the sounds are not emulated.

You'll also get a chance to use CD^3^{2} and SEGA pads, more than
three XPK libraries and GBS loading and saving when you register!

You must not spread the keyfile as it is not a very nice thing to do.
Keep it to yourself!

1.7   Sound emulation

You can get yourself the sounds, aka a keyfile by registering. ;)

The emulation is not perfect, but due to the lack of good documents I
cannot enhance it much.

NOTE! Always check out http://www.lysator.liu.se/~lcs/ahi.html (AHI
      homepage) for new updates!

NOTE! It's recommended to keep the channel four shut down as the
      emulation for that channel is incomplete. With some games
      channel four works just fine, with some it doesn't. You'll
      just have to find it out.

NOTE! If you are using default Amiga sounds chips for output, use
      Paula DMA 8bit Stereo driver as it gives the best result
      by being fast, clean and sharp in sound. Use Paula driver
      v4.17 or better if possible!

NOTE! Due to the way things work, FAST and WARP executables work best
      with y Hz -mode.

1.8   The three executables

```
  - FULL -->    This one offers a full GB Z80 emulation with all the
                CPU flags. Every GB-Z80 command can access RAM and ROM
                and write to hardware registers.

  - FAST --->   As the name indicated this one is faster, but lacks
                the emulation of H and N flags and the DAA command.
                GB-Z80 CALL, RST and PUSH optcodes can only write
                to RAM, and RET and RETI can only read from RAM.
                RES x, (HL), SET x, (HL), EX HL, (SP), INC (HL),
                DEC (HL), RLC (HL), RRC (HL), RL (HL), RR (HL),
                SLA (HL), SRA (HL), SWAP (HL), SRL (HL), LD (xx), SP,
                LDI (HL), A and LDD (HL),A commands can handle only RAM.

  - WARP ---->  WARP uses the same GB-Z80 CPU emulation with FAST.
                To make things warp TIMER, CMP and LCD interrupts are
                left away and only VBR interrupt is emulated.

                NOTE! Due to these defects in FAST and WARP executables
                      some games may have errors with sounds, graphics
                      and/or compability.
```

1.9   Shareware announcement - O-kane ga takusan hoshii n desu! ;)

```
During the long time of developement I've listened to user's requests and
made most of them to come true. Now it's my time to ask you a favor.

Wzonka-Lad is shareware. Register Wzonka-Lad to get all the missing
features! And by registering you can make sure the developement will continue!


KEYFILE VIA    YOU SEND ME                 FINNS    FOREIGNERS
email          email/snailmail             50FIM    10US$
snailmail      email/snailmail             70FIM    14US$
snailmail      email/snailmail + disk      60FIM    12US$


Send the cash to my address:

Ville Helin
Suomenlinna c54 b14
00190 Helsinki
FINLAND

Or pay to my account and send me a copy of the receipt

Merita, 1009 Helsinki
100950-474070



I can also exchange a keyfile to few manga magazines or an original
NTSC/PAL anime tape with English subtitles, but you'll have to contact
me first.



The Following features are only available for registered users:
```

- Sounds
- GameGenie patch codes
- GBS saving and loading (realtime and snapshotting)
- More than three XPK libraries
- CD^3$^{2} and SEGA pad controllers

If I ever see a pirated version of Wzonka-Lad or a keyfile in public
distribution, I will stop working.

By registering you won't only get the missing features, you'll support Amiga!

1.10 20 Recent Cartridges menu

This menu list is only available via Menu window.
The 20 recently loaded rom images are displayed on this menu.
Selecting a name from the list will reload the cartridge.

NOTE! Only 15 characters of the file are saved with this list, so
      keep those names short. Note also that the data is loaded from
      the selected default rom image storage directory.

The list is saved on exit to the prefs file.

1.11 20 Favourite Cartridges menu

This menu list is created from an external file, which is not
modified by the emulator. This is also only accessable via
Menu window.

Inside this menu you can place the 20 favourite games of yours. The
names are in ASCII, located in favourites/favourites.list.

favourites/favourites.list file is loaded on every start up and the
menu will be shown only if it is available. It must be located in
PROGDIR:favourites/!!!

You can edit the file with your normal text editor.

NOTE! The instructions for editing are inside favourites/favourites.list!

1.12 The tools directory

- prefs_to_cfg --> Converts Wzonka-Lad .prefs files to
                   Virtual GameBoy .CFG files. SYNTAX:

                   prefs_to_cfg "[INPUT NAME]" [OUTPUT NAME] [ENTER]

                   NOTE! Background colours are also extracted as window
                         colours to create a whole .CFG file.

```
 - gbs_to_sav   --> Converts Wzonka-Lad .gbs files to
                    Virtual GameBoy .SAV files. SYNTAX:

                    gbs_to_sav [INPUT NAME] [OUTPUT NAME] [ENTER]

                    NOTE! It's up to you to check out if the cartridge
                          has got battery backed RAM. The best way to
                          check this out is to run VGB with the desired
                          rom image and look if it searching for .SAV file.

                    NOTE! This utility is made to extract battery RAM data
                          from .GBS files to be used with VGB.

                    NOTE! Loader supports xpk packed files!


 - sav_to_gbs   --> Converts Virtual Gameboy .SAV files to Wzonka-Lad
                    .GBS files. SYNTAX:

                    sav_to_gbs [INPUT NAME] [OUTPUT NAME] [ENTER]
```

1.13 Copyrights

```
Wzonka-Lad Palette Editor and Wzonka-Lad the Emulator are copyrighted
by Ville Helin 1996-97. Wzonka-Lad Palette Editor cannot be copied
separately from the Wzonka-Lad emulator distribution archive. File
removing and data altering are prohibited.

Wzonka-Lad archive is freely distributable as long as

- no payment is taken.
- the archive is complete.
- no files inside the archive are altered.

If you are doing an article or a review of Wzonka-Lad then
you must send me a copy of the magazine!

If Wzonka-Lad is put on a cd, then you must send me a copy of it.

If you've registered Wzonka-Lad and you've recieved a keyfile,
it must not leave your computer. You are not allowed to spread the
keyfile.

Generally, if Wzonka-Lad is involved in something I must be told. ;)

Gameboy is naturally copyrighted by Nintendo. ;)

If any of these rules is broken I will stop developing of Wzonka-Lad.
```

1.14 Installing

Installing the emulator would not be easier; Just click on the icon
and Installer (tm) does the job for you.

Thanks to Lennart Johannesson (95lenjo@ostrabo.uddevalla.se) for
the script. Without him we wouldn't have the option of automatic
installation. ;) Cheers!

1.15   Read me before anything!

Read the documents first before sending me any mail!!!

Do not send me mail about the following things. If you do send me mail
with one of the listed subjects included I will not answer to your
mail.

I don't want to hear about

- Requests for ROM images.
- SEGA PAD's behaviour. Contact the library's author, it's not my fault.

PS. If something seems to be wrong when first trying out a new version of
    Wzonka-Lad, delete the old prefs file first, before sending me
    mail. If that doesn't help, then please write me a line or two.

But do write about

- Emulator bugs.
- Brilliant ideas (brilliant = exceptionally good).
- Current compability with your gfx/sfx card (with system configuration).
- How much you like this emulator. ;) Or how little. 8D
- Features you'd like to see in the future releases (these must, too, be
  brilliant suggestions aswell).

1.16   Requirements

                          Real Requirements:

- MC68020+
- About 3MB of memory.
- reqtools.library version 38+
- wzonka.font for the screen (zapot or topaz fonts will do it if wzonka font
  isn't found, but the view is optimized for wzonka font).
- OS3.0 (OS3.0 routines are used!).
- AHI sound system installed, any version of this will do fine, but the newer
  the better. Only used in the registered version of Wzonka-Lad.

                          Things good to have:

- Keyfile to hear the sounds.
- A cd32 compatible joypad.

- lowlevel.library for the cd32 joypad routines.
- controlpad.library if you are using a Sega controlpad alternatively.
  NOTE! You need an CP-1 CONTROL PAD ADAPTER to utilize all the buttons.
  Get ControlPad.lha from Aminet for more details.
- A fast processor (030/~40 MHz should guarantee enjoyable playability in
  all graphics modes, I guess). At least my 030/50 plays most of the games
  at full speed.
- xpkmaster.library and some good sub libraries to pack the rom images
  and ram snapshots with.
- NewIcons system to see the excellent Wzonka-Lad newicon icons!
- A Graphics card, OS3.1 and 040+ if you are really going to use the Workbench
  window drivers.

1.17 Snapshots

Wzonka-Lad allows you to save a snapshot of the RAM to disk. This way
you can freeze the Gameboy and continue the game later.

Please make the files end to .GBS to indicate that the format really
is Wzonka-Lad's own snapshot format.

1.18 Controls

```
                 A           B          START       SELECT      (PAUSE)

KEYBOARD:   left alt    left shift   right shift  right alt   p / esc
CD32 PAD:   blue        red          yellow       green       pause
SEGA 4B :   a           b            start        c           p / esc
SEGA 2B :   fire 1      fire 2       right shift  right alt   p / esc
JOYSTICK:   fire        left shift   right shift  right alt   p / esc
```

If you have a keyfile, the following keys apply to all control modes:

```
TMP GBS :    1     2     3     4     5
SAVE GBS:    F1    F2    F3    F4    F5
LOAD GBS:    F6    F7    F8    F9    F10
```

Note that these five GBS files are saved into T: and have names
Wzonka-Lad.RT.GBS(1-5).GBS. Wzonka-Lad will delete all these
temporary GBS files on exit.

1.19 Menu window

```
ROM
```

- Load   -->   Load a ROM image.
- Run   --->   Start / continue the emulation.

```
- Info          ----->  Display ROM info field.

GBS

- Load          -->     Load a RAM snapshot file (.GBS).
- Save          --->    Save                        .

                        Check out controller preferences info for
                        runtime shortcuts for GBS loading and saving!

Edit

- Gfx           -->     Edit graphics preferences.
- Sfx           --->          audio            .
- Prefs         ---->         universal        .
- Misc          ----->        misc             .

<Misc>

- About         -->     Display emulator information.
- Status line   --->    Displays misc info.
```

1.20   Misc settings

```
Misc

- Multitasking            -->  Executes exec.library/Forbid() at the beginning
                               of the emulation loop, and ends the emulation
                               loop to an exec.library/Permit() call.

                               These two procedures control the multitasking.
                               With this box unchecked you can turn off the
                               multitasking with system routines to gain a
                               little speed.

                               Disabling the multitasking and enabling the
                               sounds is not recommended, though testing
                               results show that it's ok. ^_^

- OS screen speed limit --->   Uses graphics.library/WaitTOF() to sync the
                               screen drawing into the beam. Use this only
                               if you've got a very fast Amiga and games
                               run far too fast on the OS screen you use.


GameGenie patch code

- <The three boxes>       -->  Put three uppercase letters/digits into
                               every three boxes. Currently only
                               the older version of GameGenie codes
                               is supported, so nine digits are needed.

- Patch                   --->  Patch the ROM file with the provided code.

                                NOTE! You can use as many cheats per ROM
```

```
                                     as you like as long as they don't alter
                                     the same memory location. You can
                                     discard the patches by reloading the
                                     same ROM file.
```

1.21 Visual settings

```
  Mode

- Full        -->  Process graphics data after every scanline. Slow.
- x/153       --->  Draw the whole screen on scanline x. Fast.

  Driver

    AGA

    - PAL       -->  Output to a PAL hardware screen.
    - NTSC      --->               NTSC                .

    Screen

    - Select  -->  Select the used screenmode.

    Window

    - Solid   -->  Use a fixed 160x144 window.
    - Scalable --->  Turn on the window scaling. Window width must
                     be a multiplication of 16 (automatic fixer used).
                     You'll better have a graphics card to use these modes!

  Variables

- x           -->  The scanline where the screen will be drawned if
                    x/153 mode is used.
- Frame skip ---> The amount of skipped frames.

  Colours

- Obtain      -->  Fetch the colour values from the Palette Editor.
```

1.22 Sound settings

```
  Master

- Audio  -->  Disable / enable audio.

- Volume ---> Change the master volume (ranging from 1 to 16).

  Audio

    Quality
```

```
    - High -->   Perform the best audio emulation available. Slow.

    - Low  --->  Leave out envelope and frequency sweeps. Fast.

                 High and Low modes update the sound output when
                 the registers are written into. Doing this you'll
                 gain very accurate emulation, but it costs some
                 speed by breaking the emulation.

    - y Hz ----> Update the sound information y times a second.
                 The bigger the y, the more often the sounds
                 will be updated, and the more slower the emulation.

                 AmiGameBoy is using a sound emulation very similiar to
                 this mode with y = 60 (?).

                 NOTE! Realtime changing effects for eg. channel three
                       (sample) can't be heard with this mode as they
                       update the sample buffer more than 60 times
                       a second (usually >100 times faster).

  Channels

  - Turn   -->   Disable / enable channel.

  AHI mode

  - Select -->   Select the AHI driver and playback frequency.

  Variables

  - y      -->   Ranging from 1 to 60, this value is the amount
                 of times to update the sound registers in a
                 second. The bigger the better the audio will
                 be, but the slower the emulation is going to get.
```

1.23 Preferences

```
  Paths

  - ROM     -->     Set the path for ROM images     .
  - GBS     --->                     GBS files      .
  - Prefs   ---->                    ROM .prefs files.
  - Battery ----->                   ROM .sav files  .
  - Get     ------> Use a requester the select the path.

  XPK packing when saving

    Battery RAM

    - On  -->      Use the selected XPK library to pack the battery
                   backed RAM.
    - Off --->     Don't pack battery backed RAM's.

    GBS
```

```
   - On  -->        Use the selected XPK library to pack the RAM snapshot.
   - Off ---->       Don't pack RAM snapshots.

   <List of XPK libraries>

   - Select the used XPK library.

 Controller

   <List of controlling methods>

   - Select the used controlling method.

 Save preferences

 - Default -->       Save the preferences as default ones. Everything is
                     saved to ENVARC:Wzonka-Lad.prefs
 - ROM     ---->      Save ROM image preferences. Only the colours and
                     variable x are saved.

 RAM

   Battery

   - On  -->         Save battery backed RAM files.
   - Off ---->       Battery has run out of power. ;)
```

1.24 Rom images

```
 You can load your own rom images assuming that you have some ;)
 I recommend those shipped with the Virtual Gameboy, because almost
 all of them run without any problems 8D


                          Tictactoe:

 Made by Norman Nithman. I got his permission to use the rom image.
 Thanks, Norman. ;)
```

1.25 Emulation

```
 Not very far from perfect. ;) There are two things that are not done
 in the graphics emulation. Sprites to h/w window priority and colour changes
 on a scanline basis are left out for your's sake. They would eat up too
 much resources.

 It's a real Gameboy emulation this time, no fakes here! ;)

 Runs a lot faster than the medicore unix-port Virtual Gameboy, which is
 though a far better emulator in the terms of compability.
```

Here is some misc information about the emulator programme.

1.26 Things to do

Very imminent additions:

- Fix all the bugs.
- Enhance the sound quality.
- Code a sound driver banging directly Amiga's Paula chip get gain
  more speed and quality on machines without soundcards.
- More compability.
- Speed up the cybergraphics drivers alot!

In the reserve:

- Multiplayer support via TP/ICP link or two Wzonka-Lad's running in one
  machine.
- Select a background image to be displayed inside the Wzonka-Lad WB game
  window.

1.27 Information

- 100% assembler code.
- Assembled with PhxAss MC680x0/68851/6888x Macro Assembler v4.37
  Copyright 1991-97 by Frank Wille. Thanks Frank!!!
- 020 / 32bit instructions used. Very little additional memory access while
  doing the z80 emulation (With FAST and WARP executables the amount of
  memory accesses is divided by ~seven).
- GB-Z80 instruction timings 100% supported.

- Uses optionally Sega ControlPad Library, Copyright ©1995 by Joseph
  Carlson and Randall Richards <xrichard@csu.fullerton.edu>.

  NOTE! Don't load something that isn't a rom image, because I haven't done
        the code to check the cartridge's validity. It won't guru, though, but
        be careful!

1.28 Thanks to

- Jarkko Vatjus-Anttila for great help, succestions, information, source
  codes and for being such a nice geezer ;) Without him this emulator
  would look much more boring (Check out BFBPlayer, Marbles and SinED in
  Aminet!!!).
- Big thanks to Marcel de Kogel (Author of VGB-DOS) for the great help
  with the sounds!!! Thanks!!! Without him the sounds were much grainier.
  Cheerio Marcel!!!
- Marat Fayzyllin for the most valuable information 8D He's one of the
  three guys who helped me through the developement and stayed calm,
  though my mails filled his account's hd-space ;) VGB inspirated me
  to do Wzonka-Lad!

- Chaos-Knight for the documents.
- Hans Guijt, the author of 100% asm fMSX, for z80 example codes, information
  and source codes. Without him this emulator would not exist. Brilliant, Hans!
  Good work with the fMSX! And thanks again for the help with the GUI!
- Morgan Johansson [orbit / giants] for (his everstopping whining about when
  the emulator is ready ;) Check out this dude! He's making a NES emulator!!!
  (A\NES http://home2.swipnet.se/~w-28134/ANES/).
- Brothers Sandgren for their help with os-code and graphics.
- Luca Longone for his marvellous newicons!
- Lennart Johannesson for the installer script!
- Paul Barker for beta testing and excellent ideas!
- Jon Åslund for the magic-wb drawer icon.
- Jeff Frohwein for his brilliant GameBoy homepage and the variety of documents
  available there. Keep that robot rolling!
- Sampo Kytömäki for VGB preference files and info!
- And all the others for encouraging me to continue the work. Cheers!
- Sebastian Schlesinger who sold me his old Blizzard IV card! ;)
- D. Domínguez for the Spanish guide!
- Jussi Lindgren for cybergraphics testing and ideas!
- Special hidden secret thanks to an anonymous individual! ;) Thanks! 8D
- Huge thanks to another secret person for the French guide! ^_^
- Yahoo! to Tim Favro for the most coolest registration letter so far! ^_^

1.29 The author

I'm happily living here in Finland. Age is 20 and I'm studying computer
science at the Helsinki University of Technology.
After the school I'll be a lot older and Master of Technology. =D

Hardware used for developement: A1200/030/50MHz (+FPU) + 16MB'S OF FAST
                                + 1.6GB HD + CD^3^{2} JOYPAD + "DRACULA X" -
                                AUDIO CD ;) + LOADS OF ANIME TAPES.

NOTE! NUMEROUS URUSEI YATSURA, SLAYERS, RANMA ½, BAKURETSU HUNTERS,
      TENCHI MUYO, ARMITAGE III, VAMPIRE PRINCESS MIYU, Y'S, PHANTOM
      QUEST CORPORATION, RECORD OF LODOSS WAR, MARMALADE BOY, PRETTY
      SAMMY, ALL PURPOSE CULTURAL CAT GIRL NUKU NUKU, DIRTY PAIR FLASH
      (I&II), MAZE, AH! MEGAMI SAMA, EL-HAZARD, LUPIN III, PATLABOR,
      HERE'S GREENWOOD, NEW CUTEY HONEY, GOLDEN BOY, HYPER DOLLS, PROJECT
      A-KO, FUSHIGI YUUGI, SHAMANIC PRINCESS, KO CENTURY BEAST (I&II),
      GHOST SWEEPER MIKAMI, FUSHIGI YUUGI EPISODES, BASTARD!, KIKI'S
      DELIVERY SERVICE, CHILD'S TOY, WHISPER OF THE HEART, CITY HUNTER,
      BUTT ATTACK PUNISHER GIRL, VIDEO GIRL AI, MAHOU TSUKAI TAI, AIKA,
      ADVENTURE OF KOTESU, DNA^2, CURSE OF THE UNDEAD YOMA, GALAXY FRAULEIN
      YUNA, IDOL PROJECT, COMPILER, GUNDAM W, AKAZUKIN CHACHA, VISION OF
      ESCAFLOWNE, THOSE WHO HUNT ELVES AND NAUSICAA OF THE VALLEY OF THE
      WIND ANIME FLICKS WERE WATCHED DURING THE TIME WHICH SHOULD HAVE
      BEEN USED ON CODING/STUDYING. ;)

      REGISTER WZONKA-LAD and support my anime hobby! ^_^

                        --> Free commercial <--

                   Disney's bullshit! GET ANIME NOW! ;)

```
   e-mail:    vhelin@cc.hut.fi

 snail-mail: Ville Helin
             Suomenlinna c54 b14
             00190 Helsinki
             Finland

 www:    http://www.hut.fi/~vhelin (The page with information about
                                    Wzonka-Lad and other ~normal stuff).

         http://www.niksula.cs.hut.fi/~tursas (This is for people capable
                                               of reading Finnish. Take a
                                               look at my school related
                                               home page ;).
```

1.30 Final Words

```
 If you think you could improve on some parts of the program, then let
 me know.


                            Help wanted: ;)

 If anyone has very good information about GB's channel 4, well, I could
 use some help here ;)

 And if you confess you are hiding some good interrupt documents, I
 won't punish you, but please send them to me! ;)

 And HuC1 mapper ($ff) information, anyone?

 Please send me mail if you find a 1.0/1.1/1.2/1.5/2.0MB cartridge!!!
```

1.31 Wzonka-Lad

```
 So, where does this silly name come from? Many have guessed that Wzonka
 stands for Game and Lad for Boy in finnish, but that's not it!
 Wzonka-Lad is the first name that came into my mind when it was time
 to choose a title for this emulator. I often like to name things like this,
 though it sounds as an act of lunacy ;) Anyway, it's much better than
 something like "MagiGB", "GoggleBoy" or "AmiGameBoy", well not better
 than GoggleBoy, but anyway. ;)
```

1.32 Wzonka-Lad Palette Editor 1.05

```
     In General

   The Palette Editor           Features
   Compability                  Requirements
   History                      Usage

  Gadgets

    .iff

      - Load          -->   Load colours from an iff file. Only the
                            first 8 colours are processed.

    .prefs

      - Load          -->   Load colours from a Wzonka-Lad .prefs file.
      - Save          --->  Save colours to a Wzonka-Lad .prefs file.

    .cfg

      - Load          -->   Load colours from a VGB .cfg file.
      - Save          --->  Save colours to a VGB .cfg file. Note that
                            -xc(0-3) tags are used.

    Colours

      - Obtain        -->   Obtain colours from Wzonka-Lad the Emulator.
                            Wzonka-Lad must be running in the background,
                            or this gadget will be shadowed. To have this
                            button activated you need Wzonka-Lad version
                            0.90 or greater.

    Background and Sprite colours

      - Interpolate -->   Compute the two colours between the first
                          and the last one to form a smooth slide
                          of shades.

      - <           -->   Copy colour to left.
      - >           --->                   right.

      - R           -->   Change the amount of Red in that colour.
      - G           --->                          Green               .
      - B           ---->                         Blue                .
```

1.33 Usage

```
Use the sliders and interpolate and copy gadgets to alter the colour
values, and save, load and obtain gadgets to exhange data with
external processes.

You can check out the effect of the current palette on Wzonka-Lad the
Emulator's game window by looking at the two provided example images
located at the bottom of the Wzonka-Lad Palette Editor window. Note
```

that if your Workbench hasn't got enough pens available, some of the
colours will not show correctly. By using Wzonka-Lad with Screen or AGA
modes this problem is solved, because they don't rely on Workbench's
dimensions.

1.34 History

1.05 (05.12.97)
Added iff palette loading. When idle, the CPU usage is only 20% of
what it used to be. Fixed a bug that might cause Palette Editor
to fail to locate Wzonka-Lad.

1.04 (17.10.97)
The background bitmap was one scaline too short. When pressing the
colour copy gadget the RGB values were not copied if the visible
colour on Workbench screen was same in the both units.

1.03 (10.10.97)
Fixed a grave bug in gfx routines. If OS3.1 and chunky to planar
conversion hardware are detected, the example images will be drawn
with WriteChunkyPixels() instead of WritePixelArray8(). Simplified
the font sensitivity code a lot. Changed the example images. First
public release.

1.02 (04.10.97)
Now the .prefs directory is loaded from Wzonka-Lad.prefs.

1.01 (04.10.97)
Added font sensitivity to the GUI.

1.00 (04.10.97)
Initial release for internal beta testing.

1.35 Requirements

Wzonka-Lad Palette Editor requires

- OS 3.0.
- Wzonka.font, Zapot.font or Topaz.font.
- A mouse. ;)

If you want to edit Wzonka-Lad .prefs files, you need some of them
previously saved with Wzonka-Lad. Note that Wzonka-Lad Palette
Editor cannot create .prefs files from nothing as they contain more
data than just the palette.

1.36 Compability

Wzonka-Lad Palette Editor is compatible with all the versions of
Wzonka-Lad. VGB compability is greatly extended to support almost
all the colour values and options.

Supported VGB .cfg colour tags:

-c(0-3)   -bc(0-3)   -backgroundcolor(0-3)
                   -wc(0-3)   -windowcolor(0-3)
                   -sc(0-3)   -spritecolor(0-3)

Supported VGB .cfg colour names:

yellow, green, brown, black, cyan, red, white, pink, blue,
orange, magenta, dkcyan, dkmagenta, dkcyan, dkgreen, dkred,
dkblue, gray and dkgray.

NOTE! I have no exact 24-bit values for gray and dkgray, so
      I had to use my imagination to add the support for those
      colours. If you have the true values for gray or dkgray
      (or something else, that's completely missing from the
      previous list), please send me a note.

NOTE! -wc(0-3) and -windowcolor(0-3) are ignored if -c(0-3),
      -bc(0-3) or -backgroundcolor(0-3) tags are found. If not,
      then the backgroung colour is obtained from window colour
      tags.

NOTE! As Wzonka-Lad doesn't support window colour editing, the
      background colours are outputted as window colours, too.

1.37   Wzonka-Lad Palette Editor

People who are not interested in messing around with colour values
can forget Wzonka-Lad Palette Editor, the emulator will work without
it very nicely, indeed. But those who'd love to create wild colour
schemes for different games to suit their tastes Wzonka-Lad Palette
Editor will be the perfect tool.

Forget unimaginative hex values. Wzonka-Lad Palette Editor will
provide you with all the gadgets and example images required for
fast and easy colour editing.

1.38   Features

Wzonka-Lad Palette Editor

- Applies intelligent pen allocating/deallocating scheme to
  achieve the best results.
- Allows you to select and edit the colours used by Wzonka-Lad.
- Is 100% asm code.
- Is free of any charge. ;) No keyfile is required to use Wzonka-Lad

Palette Editor to the maximum.
- Is fully multitasking.
- Window is font sensitive.
- Runs inside a window on Workbench screen.
- Shows you the results in real time without even starting the
  emulator.
- Supports Wzonka-Lad .prefs, VGB .cfg and Amiga .iff files.
- Uses gadtools.library for the GUI.

1.39   History

v0.99.3 (12-Apr-98)
Now instead of poking the hardware registers, AGA modes open a solid one
plane OS screen and inherit its frequency settings resulting in very
compatible PAL and NTSC modes. Adding master volume controller. Changed the
look of Sfx preferences window a little. Bugfixed volume envelope emulation.
A typo limited the range to eight levels, now fixed to 16. You can hear the
difference in many games, eg. Zelda, Castlevania 2... Sound superb!

v0.99.2 (05-Apr-98)
Added two new gadgets; One to control multitasking and one to control the
use of a speed limitor in OS screen mode driver (for fast CPU users only!).
Fixed one bug in the English guide file, now Edit -> Prefs -window's
documentation is accessable. Added new texts to the status line and fixed
the old output data a little. Added support for GameGenie patch codes for
registered users.

v0.99.1 (01-Apr-98)
Added French and Finnish guides. Lowered the registration prices
and added new ways of paying. ^_^ Extended favourite and recent menus
to hold 20 items each. Removed timed VRAM protection since many badly
coded demo ROMs and few games (eg. Donkey Kong Land 3) refused to
function properly, and so Wzonka-Lad needs now 512kb less memory and
is a little bit faster! Added runtime GBS saving and loading for
registered users via F1-F5 and F6-F10 buttons.

v0.99 (05-Feb-98)
Fixed the Gameboy hardware window emulation, now eg. Ayakashi no Shiro
works better. Added an example iff to help editing the palette. Speeded
up the x/153 modes a little. Rewrote the sound routines. Enhanced channel
4 (noise) emulation a little. Added correct read/write protection for a few
registers. Unrolled and optimized the scanline loop for maximum speed.
Fixed a bug in controller list creator which caused the in-game controller
detection to fail if not all the additional libraries were found. Y Hz
audio mode is faster than ever! High Quality audio mode is now very
close to the original Gameboy, and eg. Kirby 2 and Zelda sound extremely
good!!!

v0.98 (23-Jan-98)
Optimized CPU (especially FAST and WARP ones), interrupt and DMA emulations.
Fixed a few tiny GB-Z80 emulation bugs. Fixed the interrupts a lot, now eg.
Samurai Shodown, Space Invaders and Worms work again! Added LCD state
dependent RAM protection. Fixed sprite flipping bug making eg. Bubble
Bobble 2, Castlevania and R-Type 2 to work nicely! Optimized y Hz audio mode.
Cartridge information window shows now the used rom type. Final Fantasy

Mystic Quest works!! Loading a cartridge with previously saved preferences
doesn't pop up Visual settings any more.

v0.97 (23-Dec-97)
If a cybergfx screen was used by default, the driver wasn't recognized
correctly at the startup. Added third (WARP) executable. Now only variable
x and the palette colours are used in ROM preferences saving.
Merry Christmas release! ;)

v0.96 (06-Dec-97)
Added direct cybergraphics support with autodetection. Now OS screen
mode works with a graphics card supported by cybergraphics.library.
Removed the Spanish guide from the Wzonka-Lad distribution archive
and placed it into an archive of its own. Added a new sound emulation
mode. Now the AHI information string supports millions (!) of Hz's.
When idle, the CPU usage is only 20% of what it used to be. Made
Screen -> Mode -> Full and x/153 modes to use the same output routine.
Removed example RAM snapshots and battery RAM's, as I've heard that it's
illegal to spread them.

v0.95 (16-Nov-97)
Fixed some amigaguide bugs, thanks to D. Domínguez for the report. Added
a Spanish documentation made by the very same dude! Now the screenmode
is updated if OS screen driver is activated and a new screenmode is
selected. Speeded up the OS screen driver x/153 mode a lot!

v0.94 (12-Nov-97)
The .prefs path could be max 30 letters long. Corrected to 120 letters.
Altered menu window dimensions. Added emulator status line to the menu
window. Added finally AGA PAL and NTSC modes.

v0.93 (01-Nov-97)
Returned iconstartup.i as it seems to work perfectly now. Fixed
a major compability problem!!!

v0.92 (25-Oct-97)
A huge bug caused Wzonka-Lad to fail on systems with no Wzonka-Lad.KEY.
Made the memory allocation / deallocation routines fool proof. Now the
game window doesn't flash after a game has been started. A fast bug
fix - version.

v0.91 (24-Oct-97)
Fixed Window driver palette bug, and speeded up the driver. Deleted
"Palette Editor Guide" as it was included in the "Wzonka-Lad Guide".
Optimized Window 320x?, 320x144 and 320x288 modes a lot! Battery RAM
file was cleared if a game with battery RAM was loaded, but not played.
Enlarged the game window's dimensions. Added a close gadget to the
preferences window. Now the preferences window doesn't pop up on
start up. ROM prefs file loader supports now v0.83 prefs and older.
Added emulation of the last interrupt - serial interrupt. Optimized
"Wzonka-Lad FAST" CPU emulation. Luca Longone drew a new icon for
the "Palette Editor". READ THE DOCS!

v0.90 (14-Oct-97)
Rewrote the whole GUI! Now gadtools.library is used instead of custom
images. Fixed some very rare user interface bugs. GBS loader doesn't
give anymore those two enforcer hits when loading an unpacked data file,

and it behaves much better now. The hardware filter is now returned
to its original state after a pause if the audio is turned on. Removed
the iconstartup.i code as it started to give me enforcer hits out of blue.
The emulator can still be executed from a icon, but a script must be used
(done so by default). Added battery RAM (VGB, AmiGameBoy) support,
a different Palette Editor executable, graphics card indirect support
via window mode, audio quality selector and an easy path selector.
WIN+SCR is replaced by Window on Workbench screen driver, and it's now
resizeable, too! The emulator runs now on Workbench! Replaced the old
window scheme with a new one. Now every driver allocates its own memory,
unlike the old versions where all the memory required by the drivers was
allocated on startup, shrinking the memory requirements. Now all AGA
modes should have a maximum refresh value. Removed all debug capabilities.
READ THE DOCS!

v0.83 (10-Aug-97)
Fixed few audio bugs and a one bigger interrupt bug. Fixed a tiny
controller emulation bug, now eg. Rolan's Curse 2 works *much* better.
Speeded up the audio routines once again.

v0.82 (27-Jul-97)
Optimized the sound emulation routines. Fixed few small sound bugs. Fixed
a fatal interrupt bug causing timer interrupts to occur five times slower
than normal. Super Mario 1 and Mega Man 2 among the others sound much better
now...

v0.81 (21-Jun-97)
Enhanced the sound emulation, fixed some sound and interrupt bugs. Now the
selected mixing frequency for sound is used and saved along with the
preferences. The frequency was always 4410, but now selecting something
bigger will enhance the sound quality very much. The games will sound
much better now!

v0.80 (08-Jun-97)
Greatly improved the speed of GB's memory handling, but the emulator needs
now 256kB's more memory. Fixed a rare ROM bank switcher bug. The AGA
modes do not steal the system's VBR interrupt, now only hooking is used,
so better multitasking is achieved. Added a new FRAME SKIP value – ALL
(no graphics are displayed). Lennart updated the installer script.
Speeded up the DAA command emulation (in FULL executable). Fixed the .prefs
to .cfg converter version number. Added a .gbs to .sav and .sav to .gbs
file converters. Sounds (and the keyfiles) are now supported. Added a
special Sound Preferences window for registered users to use.

v0.64 (01-May-97)
A "Happy Wappu To Everyone" release. ;) Fixed a sprite flipping bug (a bug
due to fast optimizing). Fixed a bug in SCREEN mode graphic emulation style
change, so no more trashed output.

v0.63 (27-Apr-97)
Removed lowlevel.library from the archive due to copyright reasons.
Now the screenmode is fetched again from the preferences (I blew it up
in the previous version). Emulation can now also paused by pressing esc.
Speeded up 144/144 and 1/144 modes (WIN+SCR & SCREEN) a little. Tweaked
the AGA modes, too.

v0.62 (12-Apr-97)

Added crippled GB Z80 emulation executable for those who want more speed.
Now ZELDA, SUPER MARIO 2 and FISHDUDE among others don't suffer from the
counter reset! Fixed one corrupted word from the sprite x flipping table,
so sprites should look better now. Added a new menu – 10 Favourite Games!
Read the docs for more info. Added colour reset button to the colour editor
window.

v0.61 (05-Apr-97)
You can now load a rom image by supplying the name in the commandline.
Combined and enhanced the interrupt routines from versions 0.59 and 0.60.
Optimized the cpu emulation.

v0.60 (02-Apr-97)
Now the default icons have OS2.0 look if NewIcons system is not used.
Added support for 2 button Sega joypad and a normal joystick. Rewrote
the input routines and enhanced the OS code sections a lot. Speeded up
the emulation, and rewrote the interrupt part, which may affect some games.
Enhanced the z80 emulation code. Now FRMSKIP, RENDER and REFRESH values
are saved with the cartridge independent colour preferences. Wzonka-Lad
is now shareware.

v0.59 (22-Mar-97)
A fast loader fix and bug removals executed. AGA 1/144 modes have now the
limit of 50fps (not tested). ;)

v0.58 (21-Mar-97)
Fixed an AGA 1/144 mode sprite masking bug. Added Sega controller pad support
and enhanced the controller autodetection. Added a 10 Recent Cartridges menu.
Speeded up AGA 1/144 modes and added the missing h/w window emulation.
Keyboard handler is finally fully coded for every screen mode. Fixed a possible
font allocator bug, and the version strings (both executables and guide) plus
some rare gui bugs.

v0.57 (02-Mar-97)
Added automatic window activation in KEYBOARD mode. Now the CARTRIDGE, PREFS
and GBS paths from the file requesters are saved along with the universal
prefs. Colour loader defaults to prefs directory. Added close gadgets to
the CARTRIDGE INFO, PREFERENCES, ABOUT and COLOUR EDITOR windows.
Changed the background pattern image. ;) Added p-key pausing to KEYBOARD
controller. Fixed a bug in NONE xpk library GBS saver. The colour editor now
accepts VGB CFG files. Added a colour prefs to VGB.CFG file converter
executable. The COLOUR EDITOR and PREFERENCES window gadgets are shadowed
when the emulator is running. Luca Longone fixed the drawer icons! (Which I
accidentally messed up). ;) Lennart Johannesson updated the installer script.
Speeded up all graphics modes a little. Now the screens use the SA_AutoScroll
tagitem. Moved S:WzonkaLad.prefs to ENVARC:Wzonka-Lad.prefs by request.
Added AGA (unfinished) screen drivers.

v0.56 (03-Feb-97)
Added a new screen driver and introduced a new graphics emulation mode.
Added reset button to the menu bar. Added colour editor window and
possibility to save colours universally and cartridge independently.
The SCREEN screen driver now inherits the main screen's ID. The SCREEN
screen driver now works correctly with all modes. Joypad's pause button
is now utilized. Removed window's priority over the sprites, because many
games were suffering from invisible sprites on the window. Echo RAM
emulation added. Added automatic screen to front popper in SCREEN + JOYPAD

mode.

v0.55 (18-Jan-97)
Added window position saving with preferences. Added installer script by
Lennart Johannesson! Thanks! Fixed screenmode requester cancel button
bugs. Reordered the keys once again (!). This time they work perfectly
on an A1200 (10hrs of testing accomplished). The 1st Aminet release.

v0.54 (15-Jan-97)
Compability boost release. Interrupt emulation and z80 bugs fixed.
Once again reordered the keys to avoid A1200 keyboard bug. Fixed a sprite
priority bug. Added a screenmode requester. Modified the GBS file format!

v0.53 (10-Jan-97)
Fixed a debug window update bug. Fixed some major z80 and h/w emulation bugs.
"Zelda is working!" – release ;)

v0.52 (08-Jan-97)
Fixed some z80 bugs. Added new icons by Luca Longone. Reordered the keys
and buttons to enhance the emulation ;) Fixed a GBS loader bug. Added xpk
cartridge and GBS packing/unpacking support. Speeded up debug and cartridge
info windows output. Visuals changed a bit, due to the addition of a
preferences window. Fixed a bug which could cause a crash on exit.
Added a primitive preferences saver. Added frame skipper.

v0.51 (03-Jan-97)
Speeded up the z80 emulation. Added icons by Rickard Sandgren to the icons
directory. Switched from Asmone to PhxAss, because the bug I encountered
in Asmone wasn't funny. Boo! Added ram bank switching. Now the requester
recalls its path. The emulator can be launched from wb. Drew myself
a newicon. ;) Fixed some misc user interface bugs. Added ram snapshot loader
and saver.

v0.50 (30-Dec-96)
Implemented the code for bank switching with look up table. Multibank games
speed up! Fixed some more z80 bugs. Now uses OpenWindowTags and
supports the 3d look mode, so there is no need for MultiCX anymore ;)
Thanks to Johan Sandgren for this fix! Fix for the new button looks goes
for Johan's brother, Rickard! (Though I did not do all the modifications he
suggested). Anyway, great support! ;)

v0.49 (28-Dec-96)
Fixed a sprite palette bug (Reported by Morgan Johansson).
Now requires 1 MB more memory for the bank switching table, which isn't yet
in use. Fixed some bugs and speeded up the z80 emulation.

v0.48 (26-Dec-96)
Added emulation for sprite colours, and an amigaguide version of the documents.

v0.47 (25-Dec-96)
Rewrote the gfx routines. Now faster (much faster on slower machines) and better ←
    .
Added emulation for sprite x and y flippings.

v0.46 (15-Dec-96)
Added emulation for the gameboy h/w window.

```
v0.45 (11-Dec-96)
Fixed some bugs and added the keyboard controller!

v0.44 (06-Nov-96)
Now you can load rom images by the power of reqtools.library (assuming
that you have it). ;) Added some more things to the debug window and
made the emulator behave better.

v0.43 (30-Oct-96)
Added a little debug window. Modified the z80 emulation. Now faster and
safer. Made the other windows nicer ;) Found irritating bugs... ;(

v0.42 (20-Oct-96)
The first public release.
```